

PCT #88.P.G  
1-30-01

DANN, DORFMAN, HERRELL AND SKILLMAN  
A Professional Corporation  
1601 Market Street  
Suite 720  
Philadelphia, PA 19103-2307

Telephone (215) 563-4100  
Facsimile (215) 563-4044

**FAX COVER SHEET**

**CONFIDENTIALITY NOTE**

This facsimile transmission may contain information which is confidential and/or privileged. The information is intended for the individual or entity named on this transmission sheet. If you are not the intended recipient, be aware that any disclosure, copying or use of the contents of this facsimile is prohibited. If you have received this facsimile in error, please call us at (215) 563-4100 immediately so that we can arrange for a corrected transmission and the retrieval of any original documents at no cost to you.

DELIVER TO: Customer Corrections  
U.S. Patent and Trademark Office

FACSIMILE #: (703) 308-7751

DATE: November 20, 2000

FROM: Kathleen D. Rigaut, Ph.D., J.D.

OPERATOR: Jane C. Bogan

RE: U.S. Patent Application No. 09/463,098

Message: The Official Filing Receipt shows a misspelling in the name of one of the inventors. The Official Filing Receipt shows the name Riccardo Cotano. Please correct this to read Riccardo Cortese. Transmitted herewith are copies of the Declaration, Assignment Document and 1<sup>st</sup> page of the Published PCT application evidencing the correct spelling. It is further requested that a new official filing receipt be issued when the Patent and Trademark Office records have been corrected.

IF THE ACCOMPANYING/ABOVE MESSAGE IS NOT RECEIVED PROPERLY, PLEASE CALL (215) 563-4100 AND LEAVE A MESSAGE FOR THE OPERATOR INDICATED ABOVE.

## FILING RECEIPT



\*OC00000005223322\*

UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark OfficeAddress: ASSISTANT SECRETARY AND  
COMMISSIONER OF PATENT AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/463,098	05/15/2000	1645	2176	MEWBURN	9	87	3

110  
 DANN DORFMAN HERRELL & SKILLMAN  
 SUITE 720  
 1601 MARKET STREET  
 PHILADELPHIA, PA 19103-2307

Date Mailed: 07/10/2000

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

ALFREDO NICOSIA, ROME, ITALY;  
 ARMIN LAHM, ROME, ITALY;  
 ANNA TRAMONTANO, ROME, ITALY;  
 RICCARDO COTANO, ROME, ITALY;

## Continuing Data as Claimed by Applicant

THIS APPLICATION IS A 371 OF PCT/EP99/03344 05/14/1999

## Foreign Applications

UNITED KINGDOM 9810756.8 05/19/1998

If Required, Foreign Filing License Granted 07/06/2000

## Title

MIMOTOPES OF HYPERVARIABLE REGION 1 OF THE E2 GLYCOPROTEIN OF HCV AND USES THEREOF

## Preliminary Class

435

Data entry by : ORDENEZ, MARTA

Team : OIPE

Date: 07/10/2000



---

**LICENSE FOR FOREIGN FILING UNDER  
Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related application(s) filed under 36 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

**PLEASE NOTE the following information about the Filing Receipt:**

- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 600 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."

Any corrections that may need to be done to your Filing Receipt should be directed to:

Assistant Commissioner for Patents  
Office of Initial Patent Examination  
Customer Service Center  
Washington, DC 20231

BURN ELLIS

ASSIGNMENT OF UNITED STATES PATENT APPLICATION

## Recitals:

## WHEREAS

(1) **ALFREDO NICOSIA**, of Istituto di Ricerche di Biologia Molecolare P. Angeletti S.p.A., Via Pontina, Km. 30.600, 00040 Pomezia (Roma), Italy.

(2) **ARMIN LAHM**, of Istituto di Ricerche di Biologia Molecolare P. Angeletti S.p.A., Via Pontina, Km. 30.600, 00040 Pomezia (Roma), Italy.

(3) **ANNA TRAMONTANO**, of Istituto di Ricerche di Biologia Molecolare P. Angeletti S.p.A., Via Pontina, Km. 30.600, 00040 Pomezia (Roma), Italy and

(4) **RICCARDO CORTESE**, of Istituto di Ricerche di Biologia Molecolare P. Angeletti S.p.A., Via Pontina, Km. 30.600, 00040 Pomezia (Roma), Italy

(together/collectively hereinafter referred to as "the Inventors") have invented certain new and useful improvements in: **Mimotopes of Hypervariable Region 1 of the E2 Glycoprotein of HCV and Uses Thereof** the specification of which was filed as United States Patent Application No. 09/463098, filed in the United States Patent Office on 18 January 2000, (hereinafter referred to as "the Application")

AND WHEREAS ISTITUTO DI RICERCHE DI BIOLOGIA MOLECOLARE P. ANGELETTI S.p.A., a company incorporated and registered in Italy and having a principal place of business at Via Pontina KM. 30.600, 00040 Pomezia (Roma), Italy (hereinafter referred to as "the Assignee") is desirous of acquiring the entire right, title and interest, for the United States of America, in and to the Application and the invention and improvements therein disclosed, and any Letters Patent which may issue therefor in the United States of America and all divisionals, continuations, reissues, re-examinations, renewals, and extensions thereof. ~

## Operative Provisions:

NOW THEREFORE in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged the Inventors hereby ASSIGN absolutely unto the Assignee all their right, title and interest in and to the Application and the invention and improvements therein disclosed, for the United States of

09/463,098

## THIRD JOINT INVENTOR (IF ANY)

Full Name Anna Terenziano  
First Middle LastSignature Dann DorfmanDate MAY FOURTH, 2000Residence ROME ~~ITALY~~  
City State or CountryCitizenship ITALIAN

Post Office Address:

VIA E. MATTEI 19CENZANO ITALY 00045  
City State or Country Zip Code

## FOURTH JOINT INVENTOR (IF ANY)

Full Name Riccardo Corelli  
First Middle LastSignature MattieDate MAY EIGHTH, 2000Residence ROME ITALY  
City State or CountryCitizenship ITALIAN

Post Office Address:

VIA M. MASSIMO, 16ROME ITALY 00144  
City State or Country Zip Code

12. JAN 2004 15:07

MURRAY ELLIS LONDON

NO. 2343 P. 5

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6: C12N 15/40, C07K 14/18, C12N 15/62, A61K 39/29, C07K 16/10		A1	(11) International Publication Number: WO 99/60132 (43) International Publication Date: 25 November 1999 (25.11.99)
(21) International Application Number: PCT/EP99/03344		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EB, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: 14 May 1999 (19.05.99)		Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments. Under Rule 91.1(f), with a request for rectification.	
(30) Priority Data: 9810756.8 19 May 1998 (19.05.98) GB			
(71) Applicant (for all designated States except US): ISTITUTO DI RICERCHE DI BIOLOGIA MOLECOLARE P. AN- GELETTI S.P.A. (IT/IT); Via Pontina, Km. 30.600, I-00040 Pomezia (IT).			
(72) Inventors; and (75) Inventors/Applicants (for US only): NICOSIA, Alfredo (IT/IT); LAHM, Armin (DE/IT); TRAMON- TANO, Anna (IT/IT); CORTESE, Riccardo (IT/IT); Istituto di Ricerche di Biologia Molecolare P. Angeletti S.p.A., Via Pontina, Km. 30.600, I-00040 Pomezia (IT).			
(74) Agents: WALTON, Sean, M. et al.; Mewburn Ellis, York House, 23 Kingsway, London WC2B 6HP (GB).			

(54) Title: MIMOTOPES OF HYPERVARIABLE REGION 1 OF THE E2 GLYCOPROTEIN OF HCV AND USES THEREOF

## (57) Abstract

Peptides which are mimotopes of the hypervariable region 1 (HVR1) of the putative envelope protein E2 of hepatitis C virus (HCV) are provided, useful in obtaining antibodies and raising an immune response cross-reactive against different strains of HCV.